

What is claimed is:

1. An electronic toothbrush comprising:

a brush head portion having a bristle portion, to be inserted into an oral cavity, for brushing teeth;

a holder portion to be exposed outside the oral cavity;

an n-type semiconductor which is formed of TiO_2 and receives external light; and

a battery which is a solar battery having an output of more than 0.5 V and less than 3.0 V, connected only to the n-type semiconductor such that the n-type semiconductor is connected to a negative pole of the solar battery, and superimposes an electrical potential on the n-type semiconductor in order to synergistically enhance a photocatalytic effect of the n-type semiconductor.

2. The electronic toothbrush according to claim 1, wherein the TiO_2 is an anatase-type crystal.

3. An electronic brush comprising:

a brush head portion having a bristle portion;

an n-type semiconductor which is formed of TiO_2 and receives external light; and

a battery which is a solar battery having an output of more than 0.5 V and less than 3.0 V, connected only to the n-type semiconductor such that the n-type semiconductor is connected to a negative pole of the solar battery, and superimposes an electrical potential on the n-type semiconductor in order to

synergically enhance a photocatalytic effect of the n-type semiconductor.

4. The electronic brush according to claim 3, wherein the TiO_2 is an anatase-type crystal.